

ABSTRACT

The present invention relates to a method for manufacturing a micro needle array with an X-ray process. The present invention provides a method for manufacturing a
5 micro needle array, comprising the steps of preparing an X-ray mask by forming an absorber having a configuration of the micro needle array on a substrate; preparing a PMMA cast for the micro needle array by exposing PMMA to vertical and inclined X-rays using the X-ray mask; preparing a flexible PDMS mold having a configuration opposite to that of the PMMA cast by pouring PDMS on the PMMA cast; filling an upper surface of
10 the PDMS mold with a gel type of polymer to obtain a desired thickness of the polymer; patterning a desired configuration of a hole by irradiating UV rays on the polymer; and separating the PDMS mold to complete the polymer micro needle array. The micro needle array of the present invention is made of a polymer material and can be used for drawing blood from or injecting a medicine into the skin.

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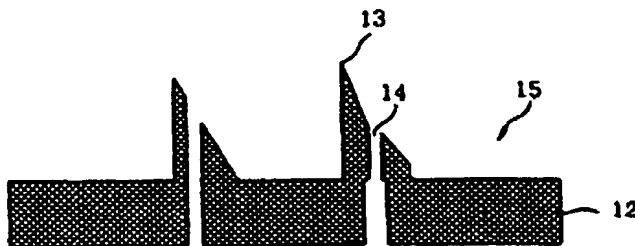
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(57) Abstract: The present invention relates to a method for
manufacturing a micro needle array with an X-ray process.
The present invention provides a method for manufacturing
a micro needle array, comprising the steps of preparing an
X-ray mask by forming an absorber having a configuration
of the micro needle array on a substrate; preparing a PMMA
cast for the micro needle array by exposing PMMA to vertical
an inclined X-rays using the X-ray mask; preparing a flexible
PDMS mold having a configuration opposite to that of the
PMMA cast by pouring PDMS on the PMMA cast; filling an

upper surface of the PDMS mold with a gel type of polymer to obtain a desired thickness of the polymer; patterning a desired
configuration of a hole by irradiating UV rays on the polymer; and separating the PDMS mold to complete the polymer micro needle
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